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MCDONNELL BOEHNEN HULBERT & BERGHOFF LLP
300 S. WACKER DRIVE
32ND FLOOR
CHICAGO, IL 60606

EXAMINER	
TAYLOR, BARRY W	

ART UNIT	PAPER NUMBER
2617	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/779,606	SEALS ET AL.	
	Examiner	Art Unit	
	Barry W. Taylor	2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 March 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *21-40* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *21-40* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *18 February 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 101

1. Regarding Claim 40. Applicants have overcome the 35 USC 101 rejection. See paper dated 4/30/2009, page9-10 wherein the instructions can only be stored on a tangible computer readable storage medium.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

2. Claims 21-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Arvelo (7,082,107) in view of Harris et al (2006/0182030 hereinafter Harris).

Regarding claim 21. Arvelo teaches a method for output power dithering for improved transmitter performance (title, abstract), the method comprising:

transmitting a plurality of packets at a first output power (title, abstract, figures 1 and 3, col. 3 lines 12-33, col. 3 line 63 – col. 4 line 65, col. 5 lines 21-61, col. 10 lines 37-46) ;

determining a first error rate associated with the transmission of the plurality of packets at the first output power (title, abstract, figures 1 and 3, col. 3 lines 12-33, col. 3 line 63 – col. 4 line 65, col. 5 lines 21-61, col. 10 lines 37-46);

transmitting the plurality of packets at least one second output power different from the first output power (title, abstract, figures 1 and 3, col. 3 lines 12-33, col. 3 line 63 – col. 4 line 65, col. 5 lines 21-61, col. 10 lines 37-46);

determining at least one second error rate associated with the transmission at the at least one second output power (title, abstract, figures 1 and 3, col. 3 lines 12-33, col. 3 line 63 – col. 4 line 65, col. 5 lines 21-61, col. 10 lines 37-46); and

identifying a desired output power based at least in part on a comparison between the first error rate and the at least one second error rate (title, abstract, figures 1 and 3, col. 3 lines 12-33, col. 3 line 63 – col. 4 line 65, col. 5 lines 21-61, col. 10 lines 37-46).

Arvelo does not explicitly show comparing first and second error rates to control output power.

The Examiner notes that Arvelo teaches using ACKs and NACKs so that the transmitter will know to re-transmit the data that had the error (col. 5 lines 21-61).

Arvelo clearly teaches the transmitter compares the number of errors to thresholds and if the power level at the transmitter needs to be adjusted to achieve the desired signal quality, then the transmitter either increases or decreases the power level accordingly (col. 5 lines 21-61).

Harris also teaches a method and apparatus to adjust output power for re-transmission of packets (paragraph 0065). Harris teaches first and second error rates are used to determine a transmit output power (paragraph 0066). Harris even teaches the use of a third error rate before determining a transmit output power (paragraph 0067). More importantly, Harris teaches **comparing** a first, second, or additionally third and fourth error rates (paragraph 0068) to determine how to adjust the transmit output power. In this way the system can maintain an overall error rate or abort rate by individually adjusting each leg of the link and allowing retransmissions to be utilized on legs that can best afford retransmissions and transmissions may be made at higher power levels on legs where the transmissions will least interfere with other communications (see last nine lines of paragraph 0068 and paragraph 0072).

It would have been obvious for any one of ordinary skill in the art at the time of invention to modify the power control method and system as taught by Arvelo to compare first and second error rates as taught by Harris in order to allow the transmitter to adjust power levels for retransmission thereby minimizing interference as taught by Harris.

Regarding claims 22-23. Arvelo teaches using ACKs and NACKs so the transmitter will know to re-transmit the data that had the error with an adjusted output power level but does so without comparing error rates.

Harris also teaches a method and apparatus to adjust output power for re-transmission of packets (paragraph 0065). Harris teaches first and second error rates are used to determine a transmit output power (paragraph 0066). Harris even teaches the use of a third error rate before determining a transmit output power (paragraph 0067). More importantly, Harris teaches **comparing** a first, second, or additionally third and fourth error rates (paragraph 0068) to determine how to adjust the transmit output power. In this way the system can maintain an overall error rate or abort rate by individually adjusting each leg of the link and allowing retransmissions to be utilized on legs that can best afford retransmissions and transmissions may be made at higher power levels on legs where the transmissions will least interfere with other communications (see last nine lines of paragraph 0068 and paragraph 0072).

It would have been obvious for any one of ordinary skill in the art at the time of invention to modify the power control method and system as taught by Arvelo to compare first and second error rates as taught by Harris in order to allow the transmitter to adjust power levels for retransmission thereby minimizing interference while overall error targets are maintained as taught by Harris.

Regarding claim 24. Arvelo teaches resuming transmission of the plurality of packets at the first output power if the first error rate or the second error rate is not determined based on a predetermined criterion (col. 4 lines 43-50).

Regarding claim 25. Arvelo teaches using ACKs and NACKs so the transmitter will know to re-transmit the data that had the error but does so without comparing error rates.

Harris also teaches a method and apparatus to adjust output power for re-transmission of packets (paragraph 0065). Harris teaches first and second error rates are used to determine a transmit output power (paragraph 0066). Harris even teaches the use of a third error rate before determining a transmit output power (paragraph 0067). More importantly, Harris teaches **comparing** a first, second, or additionally third and fourth error rates (paragraph 0068) to determine how to adjust the transmit output power. In this way the system can maintain an overall error rate or abort rate by individually adjusting each leg of the link and allowing retransmissions to be utilized on legs that can best afford retransmissions and transmissions may be made at higher power levels on legs where the transmissions will least interfere with other communications (see last nine lines of paragraph 0068 and paragraph 0072).

It would have been obvious for any one of ordinary skill in the art at the time of invention to modify the power control method and system as taught by Arvelo to compare first and second error rates as taught by Harris in order to allow the transmitter to adjust power levels for retransmission thereby minimizing interference while overall error targets are maintained as taught by Harris.

Regarding claim 26. Arvelo teaches a method for output power dithering for improved transmitter performance (title, abstract), the method comprising:

transmitting a plurality of packets at a first output power; determining a first error rate associated with the transmission of the plurality of packets at the first output power; transmitting the plurality of packets at a second output power if the first error rate is greater than a predetermined error rate value, wherein the second output power is different from the first output power; determining a second error rate associated with the transmission at the second output power; and adjusting the second output power if the second error rate is lower than the first error rate (title, abstract, figures 1 and 3, col. 3 lines 12-33, col. 3 line 63 – col. 4 line 65, col. 5 lines 21-61, col. 10 lines 37-46).

Arvelo does not explicitly show comparing first and second error rates to control output power.

The Examiner notes that Arvelo teaches using ACKs and NACKs so that the transmitter will know to re-transmit the data that had the error (col. 5 lines 21-61). Arvelo clearly teaches the transmitter compares the number of errors to thresholds and if the power level at the transmitter needs to be adjusted to achieve the desired signal quality, then the transmitter either increases or decreases the power level accordingly (col. 5 lines 21-61).

Harris also teaches a method and apparatus to adjust output power for re-transmission of packets (paragraph 0065). Harris teaches first and second error rates are used to determine a transmit output power (paragraph 0066). Harris even teaches the use of a third error rate before determining a transmit output power (paragraph 0067). More importantly, Harris teaches **comparing** a first, second, or additionally third and fourth error rates (paragraph 0068) to determine how to adjust the transmit output

power. In this way the system can maintain an overall error rate or abort rate by individually adjusting each leg of the link and allowing retransmissions to be utilized on legs that can best afford retransmissions and transmissions may be made at higher power levels on legs where the transmissions will least interfere with other communications (see last nine lines of paragraph 0068 and paragraph 0072).

It would have been obvious for any one of ordinary skill in the art at the time of invention to modify the power control method and system as taught by Arvelo to compare first and second error rates as taught by Harris in order to allow the transmitter to adjust power levels for retransmission thereby minimizing interference as taught by Harris.

Regarding claim 27. Arvelo teaches where the second output power is adjusted until a desired value of the second error rate is reached (title, abstract, figures 1 and 3, col. 3 lines 12-33, col. 3 line 63 – col. 4 line 65, col. 5 lines 21-61, col. 10 lines 37-46). Harris also teaches adjusting second output power until a desired second error rate is reached (paragraphs 0068, 0072).

Regarding claim 28. Arvelo teaches transmitting the plurality of packets at a third output power if the second error rate is not lower than' the first error rate, wherein the third output power is different from the first output power and the second output power; determining a third error rate associated with the transmission at the third output power; and adjusting the third output power if the third error rate is lower than the first error rate (title, abstract, figures 1 and 3, col. 3 lines 12-33, col. 3 line 63 – col. 4 line 65, col. 5

lines 21-61, col. 10 lines 37-46). Harris also teaches adjusting third output power to maintain overall error targets (paragraphs 0068, 0072).

Regarding claim 29. Arvelo teaches transmitting the plurality of packets at the first output power if the third error rate is not lower than the first error rate (col. 4 lines 43-50). Harris also teaches adjusting output power to maintain overall error targets (paragraphs 0068, 0072).

Regarding claim 30. Arvelo teaches resuming transmission of the plurality of packets at the first output power if the first error rate or the second error rate is not determined based on a predetermined criterion (col. 4 lines 43-50). Harris also teaches adjusting output power to maintain overall error targets (paragraphs 0068, 0072).

Regarding claim 31. Arvelo teaches the first error rate and the second error rate are determined based on a number of failed acknowledgements of transmitted packets (col. 5 lines 21-50). Harris also teaches error rates based on NAK's (i.e. failed ACKnowledgements, see paragraphs 0065, 0066, 0067, 0068).

Regarding claim 32. Arvelo teaches transmission at the first output power and second output power is associated with a variable data rate (title, abstract, col. 3 lines 12-13). Harris also teaches adjusting output power or error targets (paragraphs 0068, 0072).

Regarding claim 33. Arvelo teaches wherein the first error rate, the second error rate and the predetermined error rate value are associated with the variable data rate (title, abstract, col. 3 lines 12-13). Harris also teaches adjusting output power or error targets (paragraphs 0068, 0072).

Regarding claim 34. Arvelo teaches transmission at the first output power and second output power is associated with a variable data rate (title, abstract, col. 3 lines 12-13). Harris also teaches adjusting output power or error targets (paragraphs 0068, 0072).

Regarding claim 35. Arvelo teaches wherein the first error rate, the second error rate and the predetermined error rate value are associated with the variable data rate (title, abstract, col. 3 lines 12-13). Harris also teaches adjusting output power or error targets (paragraphs 0068, 0072).

Regarding claim 36. Arvelo teaches a system for output power dithering for improved transmitter performance (title, abstract), the system comprising:

a transmitter that transmits a plurality of packets at a first output power (title, abstract, figures 1 and 3, col. 3 lines 12-33, col. 3 line 63 – col. 4 line 65, col. 5 lines 21-61, col. 10 lines 37-46); and

a processor that determines a first error rate associated with the transmission of the plurality of packets at the first output power;

causes the transmitter to transmit the plurality of packets at least one second output power (title, abstract, figures 1 and 3, col. 3 lines 12-33, col. 3 line 63 – col. 4 line 65, col. 5 lines 21-61, col. 10 lines 37-46);

determines at least one second error rate associated with the transmission at the at least one second output power (title, abstract, figures 1 and 3, col. 3 lines 12-33, col. 3 line 63 – col. 4 line 65, col. 5 lines 21-61, col. 10 lines 37-46); and

identifies a desired output power based at least in part on a comparison between the first error rate and the at least one second error rate (title, abstract, figures 1 and 3, col. 3 lines 12-33, col. 3 line 63 – col. 4 line 65, col. 5 lines 21-61, col. 10 lines 37-46).

Arvelo does not explicitly show comparing first and second error rates to control output power.

The Examiner notes that Arvelo teaches using ACKs and NACKs so that the transmitter will know to re-transmit the data that had the error (col. 5 lines 21-61). Arvelo clearly teaches the transmitter compares the number of errors to thresholds and if the power level at the transmitter needs to be adjusted to achieve the desired signal quality, then the transmitter either increases or decreases the power level accordingly (col. 5 lines 21-61).

Harris also teaches a method and apparatus to adjust output power for re-transmission of packets (paragraph 0065). Harris teaches first and second error rates are used to determine a transmit output power (paragraph 0066). Harris even teaches the use of a third error rate before determining a transmit output power (paragraph 0067). More importantly, Harris teaches **comparing** a first, second, or additionally third and fourth error rates (paragraph 0068) to determine how to adjust the transmit output power. In this way the system can maintain an overall error rate or abort rate by individually adjusting each leg of the link and allowing retransmissions to be utilized on legs that can best afford retransmissions and transmissions may be made at higher power levels on legs where the transmissions will least interfere with other communications (see last nine lines of paragraph 0068 and paragraph 0072).

It would have been obvious for any one of ordinary skill in the art at the time of invention to modify the power control method and system as taught by Arvelo to compare first and second error rates as taught by Harris in order to allow the transmitter to adjust power levels for retransmission thereby minimizing interference as taught by Harris.

Regarding claim 37. Arvelo teaches a system for output power dithering for improved transmitter performance (title, abstract), the system comprising:

means for transmitting a plurality of packets at a first output power (title, abstract, figures 1 and 3, col. 3 lines 12-33, col. 3 line 63 – col. 4 line 65, col. 5 lines 21-61, col. 10 lines 37-46);

means for determining a first error rate associated with the transmission of the plurality of packets at the first output power (title, abstract, figures 1 and 3, col. 3 lines 12-33, col. 3 line 63 – col. 4 line 65, col. 5 lines 21-61, col. 10 lines 37-46);

means for transmitting the plurality of packets at least one second output power different from the first output power (title, abstract, figures 1 and 3, col. 3 lines 12-33, col. 3 line 63 – col. 4 line 65, col. 5 lines 21-61, col. 10 lines 37-46);

means for determining at least one second error rate associated with the transmission at the at least one second output power (title, abstract, figures 1 and 3, col. 3 lines 12-33, col. 3 line 63 – col. 4 line 65, col. 5 lines 21-61, col. 10 lines 37-46); and

means for identifying a desired output power based at least in part on a comparison between the first error rate and the at least one second error rate (title,

abstract, figures 1 and 3, col. 3 lines 12-33, col. 3 line 63 – col. 4 line 65, col. 5 lines 21-61, col. 10 lines 37-46).

Arvelo does not explicitly show comparing first and second error rates to control output power.

The Examiner notes that Arvelo teaches using ACKs and NACKs so that the transmitter will know to re-transmit the data that had the error (col. 5 lines 21-61). Arvelo clearly teaches the transmitter compares the number of errors to thresholds and if the power level at the transmitter needs to be adjusted to achieve the desired signal quality, then the transmitter either increases or decreases the power level accordingly (col. 5 lines 21-61).

Harris also teaches a method and apparatus to adjust output power for re-transmission of packets (paragraph 0065). Harris teaches first and second error rates are used to determine a transmit output power (paragraph 0066). Harris even teaches the use of a third error rate before determining a transmit output power (paragraph 0067). More importantly, Harris teaches **comparing** a first, second, or additionally third and fourth error rates (paragraph 0068) to determine how to adjust the transmit output power. In this way the system can maintain an overall error rate or abort rate by individually adjusting each leg of the link and allowing retransmissions to be utilized on legs that can best afford retransmissions and transmissions may be made at higher power levels on legs where the transmissions will least interfere with other communications (see last nine lines of paragraph 0068 and paragraph 0072).

It would have been obvious for any one of ordinary skill in the art at the time of invention to modify the power control method and system as taught by Arvelo to compare first and second error rates as taught by Harris in order to allow the transmitter to adjust power levels for retransmission thereby minimizing interference as taught by Harris.

Regarding claim 38. Arvelo teaches using ACKs and NACKs so the transmitter will know to re-transmit the data that had the error with an adjusted output power level but does so without comparing error rates.

Harris also teaches a method and apparatus to adjust output power for re-transmission of packets (paragraph 0065). Harris teaches first and second error rates are used to determine a transmit output power (paragraph 0066). Harris even teaches the use of a third error rate before determining a transmit output power (paragraph 0067). More importantly, Harris teaches **comparing** a first, second, or additionally third and fourth error rates (paragraph 0068) to determine how to adjust the transmit output power. In this way the system can maintain an overall error rate or abort rate by individually adjusting each leg of the link and allowing retransmissions to be utilized on legs that can best afford retransmissions and transmissions may be made at higher power levels on legs where the transmissions will least interfere with other communications (see last nine lines of paragraph 0068 and paragraph 0072).

It would have been obvious for any one of ordinary skill in the art at the time of invention to modify the power control method and system as taught by Arvelo to compare first and second error rates as taught by Harris in order to allow the transmitter

to adjust power levels for retransmission thereby minimizing interference as taught by Harris.

Regarding claim 39. Applicants define 802.11 protocol to be technique that requires feedback from the receiver to adjust the transmitter (see Applicants specification page 2, lines 13-15). Arvelo teaches receiver sending ACK or NACK to transmitter so the transmitter will know to re-transmit the data that had the error (col. 5 lines 21-50). Harris also teaches ACK's and NAK's (paragraphs 0065-0068).

Regarding claim 40. Program claim 40 is rejected for the same reasons as method claim 21 and system claim 36 since the recited apparatus and method would perform the claimed program steps.

Response to Arguments

3. Applicant's arguments filed 4/30/2009 have been fully considered but they are not persuasive.

a) Applicants argue that Arvelo retransmission is not based on an error rate (paper dated 4/30/2009, page 11).

The Examiner notes that Arvelo teaches PER compared to thresholds and if the power level needs to be adjusted to achieve the desired signal quality, then the transmitter either increases or decreases the power level accordingly (col. 3 lines 12-33, col. 4 line 63 – col. 4 line 65, col. 5 lines 21-61, col. 10 lines 37-61) for the **transmissions**. Arvelo teaches error rates are compared to thresholds but does not explicitly show comparing first error rate to a second error rate.

Harris also teaches a method and apparatus to adjust output power for re-transmission of packets (paragraph 0065). Harris teaches first and second error rates are used to determine a transmit output power (paragraph 0066). Harris even teaches the use of a third error rate before determining a transmit output power (paragraph 0067). More importantly, Harris teaches **comparing** a first, second, or additionally third and fourth error rates (paragraph 0068) to determine how to adjust the transmit output power. In this way the system can maintain an overall error rate or abort rate by individually adjusting each leg of the link and allowing retransmissions to be utilized on legs that can best afford retransmissions and transmissions may be made at higher power levels on legs where the transmissions will least interfere with other communications (see last nine lines of paragraph 0068 and paragraph 0072).

It would have been obvious for any one of ordinary skill in the art at the time of invention to modify the power control method and system as taught by Arvelo to compare first and second error rates as taught by Harris in order to allow the transmitter to adjust power levels for retransmission thereby minimizing interference as taught by Harris.

b) Applicants generally point to Harris paragraphs 0039, 0052-0054 and argue that Harris fails to teach re-transmission based upon an error rate (paper dated 4/30/2009, page 12).

The Examiner disagrees. Harris teaches a method and apparatus to adjust output power for re-transmission of packets (paragraph 0065). Harris teaches first and second error rates are used to determine a transmit output power (see paragraph 0066

wherein infrastructure may also determine a number of **retransmission over the links that may be attempted before aborting a frame transmitted over the links based on a first and second bit error rate and based on the first and second bit error rates, the infrastructure may also determine a transmitted signal power level for the links**). Harris even teaches the use of a third error rate before determining a transmit output power (see paragraph 0067 wherein infrastructure may determine a number of **retransmissions for each link before a frame is aborted which is based on a first, second, third and forth bit error rate and/or the infrastructure determines a transmitted power level for each of the links**). More importantly, Harris teaches **comparing** a first, second, or additionally third and fourth error rates (see paragraph 0068 wherein infrastructure compares first, second, third and forth error rates and adjusts a target error rate or transmitted power level for one or more links based on the comparison so that the infrastructure can maintain an overall error rate or abort rate for the link while individually adjusting the performance of each leg of the link. By individually adjusting each leg of the link, **retransmission and transmissions** may be made at higher power levels on the legs where transmission will least interfere with other communications) to determine how to adjust the transmit output power. In this way the system can maintain an overall error rate or abort rate by individually adjusting each leg of the link and allowing **retransmissions and transmissions** to be utilized on legs that can best afford retransmissions and transmissions may be made at higher power levels on legs where the transmissions will least interfere with other communications (see last nine lines of paragraph 0068 and paragraph 0072).

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

---(2007/0021071) Brouwer teaches that it is advantageous to operate a system at various retransmission rates depending on BLOCK ERROR RATES (see at least paragraph 0038) and comparison of BLER (see last nine lines of paragraph 0041 and the last seven lines of paragraph 0046 and the last seven lines of independent claim 54).

Conclusion

5. THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Barry W. Taylor, telephone number (571) 272-7509, who is available Monday-Thursday, 6:30am to 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dwayne Bost, can be reached at (571) 272-7023. The central facsimile phone number for this group is **571-273-8300**.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group 2600 receptionist whose telephone number is (571) 272-2600, the 2600 Customer Service telephone number is (571) 272-2600.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Centralized Delivery Policy: For patent related correspondence, hand carry deliveries must be made to the Customer Service Window (now located at the Randolph Building, 401 Dulany Street, Alexandria, VA 22314), and facsimile transmissions must be sent to the central fax number **(571-273-8300).**

/Barry W Taylor/
Primary Examiner, Art Unit 2617